

Appl. No. 10/719,148
Amdt. Dated January 25, 2007
Reply to Office action of September 18, 2006

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AMENDMENTS

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A four-stroke engine comprising:
a crankcase;
a crankshaft supported for rotation within the crankcase;
an oil reservoir located within the crankcase; and
means for vibrating the crankcase to mist oil from the oil reservoir to lubricate non-crankcase-environment engine components, wherein the means for vibrating the crankcase includes a vibration mechanism coupled to a portion of the crankcase.
2. (Original) The four-stroke engine of claim 1, wherein the means for vibrating the crankcase includes the crankcase having a wall thickness of about 1.5 mm.
3. (Original) The four-stroke engine of claim 1, wherein the means for vibrating the crankcase includes the crankcase having a wall thickness of less than 1.5 mm.
4. (Previously cancelled)
5. (Previously presented) The four-stroke engine of claim 1, wherein the vibration mechanism is a vibration plate.

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6. (Previously presented) The four-stroke engine of claim 1, wherein the vibration mechanism is a vibration spring.
7. (Previously presented) The four-stroke engine of claim 1, wherein the vibration mechanism is coupled to a bottom portion of the crankcase.
8. (Original) The four-stroke engine of claim 1, wherein a clearance area located in the crankcase is less than 10 mm.
9. (Original) The four-stroke engine of claim 1, wherein a clearance area located in the crankcase is about 1.5 mm.
10. (Original) The four-stroke engine of claim 1, wherein a clearance area located in the crankcase facilitates splashing of the oil against a counterweight.
11. (Previously presented) A four-stroke engine comprising:
 - a crankcase;
 - a crankshaft supported for rotation within the crankcase;
 - an oil reservoir located within the crankcase; and
 - means for misting oil from the oil reservoir without the use of an oil dipper,wherein the means for misting oil includes providing a clearance area in the crankcase which is less than 10 mm such that a surface ripple in the oil reservoir splashes against a counterweight in the engine, the clearance area being maintained during a complete rotation of the crankshaft above an at-rest oil level.
12. (Previously cancelled)
13. (Previously cancelled)

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14. (Previously presented) The four-stroke engine of claim 11, wherein the clearance area is about 1.5 mm.

15. (Original) The four-stroke engine of claim 11, wherein the means for misting oil from the oil reservoir includes utilizing engine vibration to produce a ripple in a surface of the oil.

16. (Original) The four-stroke engine of claim 15, further comprising a vibration mechanism coupled to the crankcase to amplify the ripple.

17-19. (Previously cancelled)

20. (Previously presented) The four-stroke engine of claim 1, wherein the vibration mechanism is mounted on the crankcase.

21. (Previously presented) The four-stroke engine of claim 1, wherein the non-crankcase engine components include valving components.

22. (Previously presented) The four-stroke engine of claim 21, wherein the valving components include at least one of an intake valve or an exhaust valve.

23. (Previously presented) The four stroke engine of claim 21, wherein the valving components include valve drive train components.

24. (Previously presented) The four stroke engine of claim 23, wherein the valve drive train components include at least one of a rocker arm, valve spring, pushrod, or cam.

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25. (Previously presented) The four-stroke engine of claim 1, wherein the engine includes at least one passage therein to permit fluid communication between the crankcase and the non-crankcase engine components.
26. (Previously presented) The four-stroke engine of claim 1, wherein the means for vibrating is coupled to an exterior portion of the crankcase.
27. (New) A four-stroke engine comprising:
a crankcase;
a crankshaft supported for rotation within the crankcase;
an oil reservoir located within the crankcase;
means for misting oil from the oil reservoir without the use of an oil dipper, wherein the means for misting oil includes providing a clearance area in the crankcase which is less than 10 mm such that a surface ripple in the oil reservoir splashes against a counterweight in the engine, and wherein the means for misting oil from the oil reservoir includes utilizing engine vibration to produce a ripple in a surface of the oil; and
a vibration mechanism coupled to the crankcase to amplify the ripple.